

REMARKS

Claims 1 and 3-31 were pending and stand rejected. Claims 1, 13, 16, and 24 have been amended. Claims 1 and 3-31 are pending upon entry of this amendment.

Claims 1, 3, 7-12, 16-17, 20-25, and 28-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chandrasekaran in view of Hamada further in view of Danneels. Applicants respectfully traverse.

Claim 1, as currently amended, recites a method of handling a message received at a messaging system server, the method comprising:

- storing, in non-persistent storage, the message;
- attempting to deliver the message;
- continuing, after the attempt, to store the message in the non-persistent storage; responsive to the attempt being successful, removing the message from the non-persistent storage; and
- after a delay interval has elapsed, **responsive to the attempt not being successful**, wherein the message still continuing to be stored in non-persistent storage, saving the message to persistent storage so that the message can be retrieved and delivered.

The claimed method thus provides a mechanism to either successfully deliver a message or reliably save the message for later delivery attempt. Depending on whether the delivery attempt is successful or not, the method either removes the message from non-persistent storage or saves it to persistent storage. Independent claims 16 and 24 have been amended to recite similar limitations.

These aspects of the claimed invention are not disclosed by the cited references. Chandrasekaran does not disclose, teach or suggest saving a message to persistent storage for later retrieval and delivery **responsive to** message not being successfully delivered within a delay interval. Chandrasekaran describes that (col. 7, lines 27-34) once the propagation process transmits a message to the destination site, it stores the propagated message data into a propagation table that is maintained in nonvolatile memory at the source site. Clearly,

Chandrasekaran saves message data into nonvolatile memory for all transmitted messages, regardless whether the messages are delivered successfully or not. This is different from waiting for a delay interval to elapse, and if the delivery is still not successful, saving the message to persistent storage, as in the claimed invention. Chandrasekaran has its reason for doing so, i.e., “by maintaining the propagated message data in nonvolatile memory, a recovery mechanism is provided that allows the source site to determine, even after a source site failure, whether a particular message has previously been propagated to the destination site” (col. 7, lines 34-38).

Further, the “propagated message data” that is stored into nonvolatile memory in Chandrasekaran refers to “propagation sequence number, the UID and an initial propagation state” (col. 7, lines 30-31), which are not “content of the messages” as asserted by the Examiner on page 9 of the office action. In contrast, the claimed method saves the message itself, not information about the message, to persistent storage so that it can be retrieved from the persistent storage and delivered later.

In addition, since Chandrasekaran dequeues to-be-propagated messages from the propagation queue (in volatile storage) before the message is transmitted (col. 7, lines 14-21), it is not possible for Chandrasekaran to respond to a message still continuing to be stored in non-persistent storage after delivery is attempted.

In sum, Chandrasekaran does not make obvious, after a delay interval has elapsed and responsive to delivery attempt not being successful (i.e., the message still continuing to be stored in non-persistent storage), saving message to persistent storage so that the message can be retrieved and delivered, as claimed herein.

Neither Hamada nor Danneels nor their combination remedies this deficiency. Hamada does store the content of message in non-volatile memory (col. 17, lines 44-49). But it does not do so in response to delivery attempt not being successful, nor does it do so after a delay interval

has elapsed. Danneels describes storing message to temporary storage after a message has been broadcast for a predetermined amount of time (col. 6, lines 59-61, 65). Nevertheless it does not disclose saving message to persistent storage in response to the message not successfully delivered after a delay interval has elapsed.

Accordingly, claim 1 is respectfully submitted to be patentable over Chandrasekaran, Hamada, and Danneels, alone and in combination. Independent claims 16 and 24, as amended, recite similar features as amended claim 1, and thus are also patentable over Chandrasekaran, Hamada, and Danneels, alone and in combination, for at least the foregoing reasons.

Claims 4-6, 13-15, 18-19, and 26-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chandrasekaran in view of Hamada further in view of Danneels further in view of Stein. Applicants respectfully traverse.

Independent claim 13, as amended, recites similar features as amended claim 1, which is shown above to be patentable over Chandrasekaran in view of Hamada further in view of Danneels, alone and in combination.

Stein does not cure the deficiency of Chandrasekaran in view of Hamada further in view of Danneels. The Examiner asserts that Stein teaches transmitting an acknowledgement message to a client that sent a received message, the acknowledgement message indicating that the received message will not be lost by the server in the case of server failure. Applicants respectfully submit that, however, the portion of Stein cited by the Examiner, col. 12, lines 21-37, merely describes the fax processing awaits for a user to confirm the request for sending a facsimile; after the user confirms, it displays a fax-sent confirmation and places the fax request in a queue. This is not the same as transmitting an acknowledgement to client that sent a received message as claimed herein.

Further, assume for the sake of the argument that Stein does teach transmitting an acknowledgement message to a client that sent a received message, it is insufficient to remedy the deficiency of Chandrasekaran in view of Hamada further in view of Danneels, which is, after a delay interval has elapsed and responsive to delivery attempt not being successful (i.e., the message still continuing to be stored in non-persistent storage), saving message to persistent storage so that the message can be retrieved and delivered.

Accordingly, claim 13 is respectfully submitted to be patentable over Chandrasekaran, Hamada, Danneels, and Stein, alone and in combination, for at least the foregoing reasons.

The claims not specifically mentioned above depend from their respective base claims, which are shown to be patentable over Chandrasekaran in view of Hamada further in view of Danneels or Chandrasekaran in view of Hamada further in view of Danneels further in view of Stein. In addition, these claims recite other features not included in their respective base claims. Thus, these claims are patentable over Chandrasekaran in view of Hamada further in view of Danneels or Chandrasekaran in view of Hamada further in view of Danneels further in view of Stein, for at least the reasons discussed above, as well as for the elements that they individually recite.

Applicants respectfully submit that the pending claims are now allowable over the cited art of record and request that the Examiner allow this case. The Examiner is invited to contact the undersigned in order to advance the prosecution of this application.

Respectfully submitted,
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